

TRANSACTIONS OF THE CHICAGO SURGICAL SOCIETY.

Stated Meeting, May 5, 1902.

ARTHUR DEAN BEVAN, M.D., in the Chair.

CARCINOMA OF THE LARYNX.

DR. BEVAN presented three cases of carcinoma of the larynx. The first would serve as an example of the method of handling these cases which had generally been adopted in the past. The carcinoma had existed for a number of months, and it was either not recognized sufficiently early, or it was not thought warrantable even in the early development of the case to do a radical operation. The carcinoma had gradually extended from the larynx to the œsophagus; a tracheotomy was necessary in order to relieve the great dyspnœa. This was done by Dr. Otto T. Freer, who then had charge of the case. The patient had worn a tracheotomy tube for a number of months. Gradually in its development the carcinoma had encroached upon the œsophagus, and on that account the case had been referred to the surgical service to decide as to the advisability of doing a gastrostomy. The patient at present could not swallow, so that it was necessary to resort to rectal feeding. Both fluids and nourishment had been given by the rectum for a number of weeks, and there was left nothing practically except the palliative measure of gastrostomy, which in this particular case was not indicated, as rectal feeding was well borne by the patient, making him fairly comfortable.

The second case he presented was a patient upon whom the late Professor Christian Fenger made a complete laryngectomy, it being one of the last operations which Fenger performed before his death. The patient made a very good recovery from the operation. In this case a preliminary tracheotomy was done, and

some time after the preliminary tracheotomy the complete removal of the larynx was undertaken. The patient, because, on account of sloughing, the pharynx was not closed from the external wound, although the effort was made to obtain complete closure by sutures, was now in a condition in which many of the earlier cases are found, wearing a tracheotomy tube, with an opening at the floor of the mouth, and in such a condition that it was necessary for him to use a stomach-tube in order to obtain liquid nourishment. The man had been very much improved by the operation, and was now in a condition to wear an artificial larynx of the original type, where the air was forced from the trachea up into the mouth cavity through the opening in the floor of the mouth.

The third case was one upon which Dr. Bevan had operated about four weeks ago. It represented, he thought, the best method of handling these cases. The patient was brought to him by Dr. Dickerman with early recognized carcinoma of the larynx, more extensive after he had removed the gross specimen than would appear from examination by the clinician. He thought the case was very appropriate for the removal of the entire larynx. This was done by the operation suggested by Keene in 1900, and which had been carried out practically with some modifications by Kocher in a considerable number of cases.

The operation was done in the following way: No preliminary tracheotomy; an incision was made from the hyoid to the sternum; the larynx and the trachea were very freely and cleanly dissected in front and laterally; the patient was then put in the Trendelenburg position; the trachea was divided just below the cricoid and brought into the lower angle of the wound, and stitched into position by four large silk sutures; the mucosa of the trachea was united accurately to the integument by fine horse-hair sutures. The entire larynx was then removed; the opening in the pharynx and œsophagus entirely closed by deep buried sutures. The patient now had a complete closure, separating the trachea from the œsophagus and the pharynx. Fortunately, the wound healed by first intention throughout. Patient could swallow and eat. He wore no tracheotomy tube.

He mentioned the new method of employing an artificial larynx, as suggested by Gluck, by which a short tracheotomy tube is introduced temporarily into the opening in the trachea,

the air carried by a rubber tube, some rubber bands put in vibration along the course of the rubber tube, and a small catheter introduced into the nose, so that the sound is carried into the mouth cavity, enabling the patient to talk or sing without much difficulty. He had not applied an artificial larynx in this case. This case had been handled throughout without any tracheotomy tube. He experimented with a tracheotomy tube at the time of the operation, and found it was a great source of irritation. Without the tube the patient could breathe normally; with it there was great effort at expulsion, increased secretion of mucus, and conditions which impressed the surgeon with the fact that the mere use of the tube was probably one of the causes of the pneumonias which proved so fatal in these cases.

Until recently the profession generally, both throat specialists and general surgeons, felt that cases of carcinoma of the larynx should be let alone. He had been converted from that belief to this position, that cases of carcinoma of the larynx should be operated upon in practically all instances seen early, and the earlier the better. When cases were absolutely inoperable, as the first case reported, they had passed beyond the possibility of operative relief; but cases seen early by the general practitioner or the throat specialist should be operated on always, because, if left alone, almost invariably tracheotomy was necessary later, and patients presented the distressing picture shown in the first case.

Recently von Bruns had collected 271 cases of operations for carcinoma of the larynx done from 1890 to 1898. These operations comprised thyrotomy, subhyoid pharyngotomy, partial and complete extirpations of the larynx, etc. Of the 271 cases operated upon by various methods of procedure, thirty-four were permanently cured in the sense that they lived more than three years without recurrence; forty-two, or 15.5 per cent., lived without recurrence from one to three years, making 27.5 to 28 per cent. of the cases which lived from one to three years without recurrence. Sixty-five, or 25 per cent., of the cases had recurrence within a year; seventy-four, or 27 per cent., of the cases had rapid recurrence, and about 19 per cent. died as the immediate effect of the operation. The recent statistics of Kocher were better. Kocher had done twenty-four complete laryngectomies, with but two deaths; five of the patients were free from

recurrence, one of them four and a half years after the operation. Von Bruns had reported one interesting case which was free from recurrence eight years after operation.

The speaker was inclined to believe that a careful investigation of this subject would lead surgeons to these conclusions: *First*, that carcinoma of the larynx, early recognized, could be removed by complete laryngectomy, or possibly by a less major operation, as a partial laryngectomy, or thyrotomy, with a mortality not exceeding 10 per cent.; *second*, that of the cases which recovered from the operation, about half of them would live from one year to eight years without recurrence; *third*, that if these cases were analyzed alongside of those which had not been interfered with, as control cases, one would be led to the conclusion that early operative interference was not only warranted, but dictated, by the future history of the cases.

DR. EDWARD T. DICKERMAN said he could not agree with the radical statement of Dr. Bevan that all cases of carcinoma of the larynx should be operated upon. In a number of instances, where the growth was confined to the larynx, if let alone, the patients would live for a number of years with a good-sized carcinoma of this organ. In cases like the first one exhibited by Dr. Bevan, he thought an operation was hardly practicable, for the reason that there was almost sure to be a recurrence. One was hardly justified in placing a patient's life in such great danger when a simple tracheotomy would enable such a patient to live from two to three or possibly four years. Moreover, it had been shown that fully 10 per cent. of the patients died as the direct result of laryngectomy. He had in mind three cases that had come under his observation which he deemed unfavorable for operation. Tracheotomy was resorted to in these cases, and one of them lived one year, the other had lived two and a half years, and the third was now in his fourth year with carcinoma of the larynx. He did not think that in any of them total laryngectomy was indicated. Where the growth was confined to the larynx, then a laryngectomy might be done.

DR. WILLIAM E. CASSELBERRY stated that his views upon carcinoma of the larynx, as regards the advisability of operation, had changed materially in the last few years. The former statistics of laryngectomy were very bad, and the immediate mortality from complete laryngectomy was somewhere between 40 and 50

per cent. previous to 1890. Of the patients who survived the operation, the recurrences were numerous, and the number that were ultimately saved was reduced to about 5 per cent., only a small percentage recovering, after making allowance for errors in diagnosis. As to the nature of operations, a division of the thyroid cartilage and a shelling-out down to the cartilage of all carcinomatous tissue, which was an operation in vogue in London at the present time, employed by Butlin and Lennox Brown in early cases of carcinoma of the larynx, gave statistics which compare favorably with those given by Dr. Bevan as to total laryngectomy.

The reason for the preference of thyrotomy in cases seen early was the avoidance of mutilation of the patient. Following this operation swallowing was not interfered with, and the patient was able to talk, which was a great desideratum. It was not intended to urge this operation in advanced cases, but where the cases could be seen early and operated promptly by thyrotomy, they were saved the necessity of laryngectomy. Given a case in which laryngectomy became necessary, he thought there was no question but that the method depicted in the third case by Dr. Bevan was the best. The only objection urged against the operation done heretofore was that it was impossible to adjust an artificial larynx. However, by the newer method mentioned by Dr. Bevan this objection could be obviated.

DR. JACOB FRANK said that some three years ago he presented a patient before the Society upon whom he had performed a laryngohyoidectomy, that is, the entire removal of the larynx, hyoid bone, and epiglottis. This patient could swallow and could speak so as to be heard all over a good-sized room.

DR. GOTTSTEIN (first assistant to Professor Mikulicz, of Breslau, Germany, by invitation) said that this method was done in 1881 by Glück, who had performed thirty such operations. In the Mikulicz clinic the same method was employed. This method was not often followed by pneumonia. He had modified Glück's artificial larynx, in that he introduced the air by a tube in the mouth. His patient could not only speak in a loud voice, but could sing. He cited a case such as the Solis-Cohen case, where the patient learned how to speak by sucking air into the pharynx and upper œsophagus, and modulating it by the tongue and a remnant of the epiglottis. After a careful study of the above

case, and some observations made on two other cases, Dr. Gottstein was of the opinion that by careful training and constant practice by the patient it was not only possible, but probable, that a large percentage of these cases could be taught to talk.

THE HARTLEY-KRAUSE FLAP IN HÆMORRHAGE FROM THE MIDDLE MENINGEAL ARTERY, WITH REPORT OF TWO CASES.

DR. SAMUEL C. PLUMMER, JR., read a paper with the above title, for which see page 591.

PERFORATION OF THE SMALL INTESTINE IN TYPHOID FEVER.

DR. G. E. ARMSTRONG, of Montreal, read a paper with the above title, for which see *ANNALS OF SURGERY* for November.

DR. FRANK BILLINGS said that perforation of the bowel occurred in typhoid fever in practically 3 per cent. of the cases. The severity of typhoid fever in its clinical course bore no relation really to perforation. Those who had the disease in mild form were just as likely to have perforation as those who were severely sick. The number of ulcers in the intestine bore no relation to the height of the fever or to the severity of the general course of the disease. In other words, an individual suffering from typhoid fever might become as deeply toxic from a single ulcer of the intestine as from numerous ulcers.

Pain was one of the mainsprings of diagnosis. Pain in typhoid fever might be due to local inflammation of the peritoneum and adhesions might play a part. He recalled a patient whom he saw ten years ago at St. Luke's Hospital, who had severe pain, with collapse, cold extremities, etc., and what appeared to be a perforation. A laparotomy did not show that the patient had had peritonitis, with adhesions, but a local constriction of the gut which produced tympanites, from which the patient suffered, and the great toxæmia in the course of the fever led to the collapse. The patient recovered from the immediate effects of the operation, and afterwards died as the result of prolonged toxæmia from the typhoid fever. Pain might be due to inflammation or infection of the mesenteric glands. These might rupture. In that event, it was practically the same as a

rupture of the intestine requiring operation. He acquiesced in all the essayist had said concerning the important symptoms.

As to leucocytosis, he thought physicians did not appreciate its proper value, if it were used as it should be. If the leucocyte count was properly carried out, it would prove of great value. This was not done in most hospitals because of lack of help. It was impossible to get both house physicians and nurses to make the necessary observations of the blood. He thought more importance should be attached to leucocytosis in typhoid fever cases than there had been, and if blood counts were taken sufficiently often they might prove of great value. He said his function as an internist was to so observe the patient that he might note the conditions accurately enough to either say that perforation was imminent or had occurred, and then call a surgeon to his aid in six hours or twelve hours, as the case might be. The earlier an operation was performed in cases of perforation of the gastrointestinal tract, the greater the chance for recovery of the patient.

DR. N. B. CARSON, of St. Louis, Mo., called attention to those cases which presented the symptoms of perforation, but which recovered, the perforation taking place between the layers of the mesentery. Recently, a professional friend of his had a relative who presented all the symptoms of perforation of the intestine, but recovered without operation. The patient presented symptoms of sepsis for some time, and the question arose whether this might not have been due to a perforation between the mesenteric folds with a small abscess which developed and had discharged through this opening. In proof of this condition were, he thought, many of these local abscesses, such as were cited by the essayist, in the lumbar region. Furthermore, there were the so-called psoas abscesses, and it had often struck him that perforation had taken place between the folds of the mesentery and had burrowed back, forming the local abscesses.

DR. E. WYLLYS ANDREWS reported a successful case of operation for typhoid fever perforation, operated at five o'clock in the morning, after having been diagnosed at midnight. The patient made not only a rapid recovery from collapse, but from the previous high temperature that ran a course of some three months, with relapsing typhoid fever. This led him to the conclusion that possibly a minute leak was present, which had caused sepsis, but, at the same time, in thinking the matter over afterwards, he was

unable to recall that the peritoneum showed any signs whatever of having been chronically irritated.

One point mentioned by the essayist needed re-emphasizing, namely, the advice given in treatises and crystallized into a maxim, that in perforation of the intestines, threatening peritonitis, as well as in gunshot perforations, operation should be postponed for the period of reaction. This was a maxim which was as old as surgery, and to his mind, when applied to septic conditions in the abdomen, was absolutely negated by all the experience he had ever had. The advice of the essayist to make the earliest possible operation and forestall the occurrence of shock was the only correct one to take.

DR. ALEXANDER HUGH FERGUSON mentioned one case upon which he operated for a supposed appendicitis. The patient had typhoid fever, and while convalescing had severe pain in the region of the vermiform appendix, where a tumor developed. Upon cutting down he found an abscess which had communicated with the bowel. There was gas in the abscess. The appendix was situated completely behind the cæcum extraperitoneally.

DR. L. L. McARTHUR reported three unfavorable results in fairly early operations for intestinal perforation. He had had no successful cases, although he had operated four times,—in one case referred to by Dr. Billings, and in three other cases in his hospital services at Michael Reese and St. Luke's. In going through the medical ward of Michael Reese Hospital to get an internist to see a surgical case with him upstairs, he found a man lying in bed, pale, and in a state of collapse, sweating, etc. He spoke to the physician, and asked him why he was allowing the patient to die, and he replied that the man had just been discharged and was going home. They walked back to the bed together, and found the patient in collapse, with evidences of intestinal perforation. The man was immediately put on a stretcher, taken to the operating-room, his abdomen opened, and a perforation of the ileum found, with the escape of intestinal contents into the abdominal cavity. He thought within three-quarters of an hour from the time perforation had occurred the abdomen was opened, the perforation sutured, and the abdomen drained. The perforation was about the size of a small lead-pencil. The abdomen was mopped out, not flushed, with salt solution and drained down to the line of sutures.

He was heartily in favor of operation, notwithstanding the unfavorable results that had attended the cases he had operated upon, and still believed that the only proper course to pursue was to resort to surgical intervention.

DR. M. L. HARRIS said that in some cases no increase in the number of leucocytes is found. In the same kind of infection, in one patient there would be an increase in the number of leucocytes, while in another case there would be no increase, so that physicians had learned not to place too much reliance on the mere enumeration of the leucocytes in diagnosis. He referred to the changes in variety and quality of the granules. In cases of infection by the typhoid bacillus there was leukopenia, as a rule. This was a characteristic and important diagnostic feature in typhoid infection.

He narrated a case which he saw recently in consultation which presented evidences of acute cholecystitis. There was elevation of temperature, distinct localized tenderness, enlargement of the gall-bladder, with thickening, which could be readily outlined, and the question arose as to an operation for the relief of the acute cholecystitis. On removing the patient to a hospital and examining the blood, he found leukopenia. The absence of the characteristic granules and other evidence led him to think of typhoid infection. A Widal reaction was made, which was distinctly positive; and the case was treated as one of typhoid fever.

He was inclined to lay more stress on a change in the variety or quality of granules than on the slight difference in the leucocytic count.

In peritoneal infections, leucocytosis was not so marked as it was in infections of the connective tissue. This he had noticed recently in two cases, in which no blood examination had been made. One was a case of infection of the connective tissue, in which there was decided leucocytosis; the other was a case of peritoneal infection which he thought would result fatally. The temperature in this case had arisen to 107.2° F.; there was no leucocytosis, but there were distinct iodophilic granules. A careful study of the blood was of the utmost importance in differentiating between the different kinds of infections.

DR. ARMSTRONG, in closing the discussion, said that the toilet which was applicable in cases of typhoid perforation could like-

wise be employed in any form of infective peritonitis. His first idea was to bring everything, if possible, into view, as he did very little in the dark, and by padding and careful manipulation, after placing the patient in the proper position, he endeavored to get the field of the infected area exposed to view, and then used swabs. When the infection was wide-spread, he was satisfied that one could do much better with swabbing than with solutions and douching. In flushing the abdominal cavity he preferred a soft tube, so as to flush the bottom of the cavity. This was the toilet he adopted in all infected cases. In typhoid cases he filled the abdomen full of normal salt solution at a temperature of 110° to 112° F., using a rubber tube.

As to sutures and suture material, he used two rows, and sometimes, if the patient was in good condition, a third row. For closing the opening he used one or two sutures of fine catgut for the first row, and also catgut for the second row, and then he preferred fine silk over that. He was aware that many surgeons only used two rows of sutures, but he felt safer with a third row.

He agreed with Dr. Billings that a blood count should be taken quite frequently if there were suspicions of perforation of the intestine. The point he desired to bring out in his paper was that because one found leucocytosis, eliminating other things, it was not a sufficient guarantee for opening the abdomen, and if the symptoms were fairly well marked, he would not hesitate to operate, even if there was no increase in the number of white cells.